ONTARIO. MINISTRY OF THE ENVIRONMENT

Sanitary survey of Spragge district of Algoma.

1977

SANITARY SURVEY OF SPRAGGE

DISTRICT OF ALGOMA

1977

POLLUTION CONTROL PROGRAMME

1977

DISTRICT OF ALGOMA

SPRAGGE

The field work included in this report was completed by the staff of the Sault Ste. Marie District Office, Municipal and Private Abatement Section.

TABLE OF CONTENTS

SPRAGGE

SUMMARY

A study of the sanitary and environmental conditions in Spragge was conducted June 6 and 7, 1977. The survey concentrated on the type and condition of the various sewage disposal system, the method of refuse disposal, and drinking water quality. In cases where the owner was unavailable for interview site evaluations were carried out.

The recently established refuse collection service was utilized by all residents interviewed. This service is provided by Northshore Sanitation Service.

Dug wells and springs were used in the majority of cases as drinking water sources. Residents drinking contaminated water were informed of effective disinfection practices to use prior to consumption. The Algoma Health Unit was notified of these cases.

INTRODUCTION

Spragge is located in the Township of Spragge in the Northshore Improvement District. A survey was conducted during June, 1977 as a part of the Ministry of the Environment's ongoing programme of small community development studies.

The data generated by the study is used to identify and upgrade faulty disposal systems and practices.

Spragge includes approximately 75 residences, several commercial establishments and a KOA campground. Forty-four people were interviewed by the survey crew which attempted contact at 64 homes. A further four homes were tested for water quality at a later date. Appendix I summarizes the results of the completed interviews. Interviews included investigation into sources of drinking water and method of grey water, sewage and refuse disposal.

DISCUSSION

1. Disposal Facilities

(a) Refuse Disposal

All of the residents interviewed in Spragge utilized the refuse collection service provided on a weekly basis by Northshore Sanitation Service. Several derelict vehicles and a large heap of rusted cars were noted by the survey crew (pictures).

(b) Sewage Disposal

Septic tank systems were used by the majority of residences (38) for sewage disposal. A small number of people (3) used pit privies and one resident had a holding tank.

The survey crew encountered several substandard septic systems. These were reported to the Algoma Health Unit and are listed below:

E. Bissaillion General Delivery	undersize tank, 300 gallons
E. Schaffernicht General Delivery	septic field in very low lying area, water samples indicate system may be cause of creek contamination
D. MacDonald General Delivery	60 feet tile field
E. Netzke General Delivery	100 feet tile field
R. Asselin P.O. Box 92	undersize tank (300 gallons) 50 feet tile field
Mr. J. L. Genest General Delivery	suspicious location of tile field
L. McMillan General Delivery	may be too small
I. Brisbois General Delivery	non-watertight construction claimed made of wood, sub-standard size
R. Monette General Delivery	claims tank is too small

Many people were unfamiliar with their septic tank system details, thus restricting evaluation to visual inspection.

(c) Grey Water Disposal (Kitchen-Bath Waste)

Method of grey water disposal was undetermined in most cases because owners were unfamiliar with methods of disposal. This resulted in a lack of data in some cases. The following methods were used for grey water disposal:

combined (to septic system or cesspool)	13
separate (leaching pit)	1
separate tank	4
grease trap	2

2. Drinking Water

The following sources of drinking water were utilized·

dug wells	17
drilled wells	6
point	5
spring	10
other	5

Other sources consisted of neighbours' wells (1), creek (1), Algoma Mills (1) and two wells of unknown type.

Bacteriological examination of drinking water samples indicated that unpotable sources occurred mainly in dug well sources (5) while other unpotable sources included spring (3), point well (3), creek (1) and unknown type wells (2). All residents obtaining drinking water from unpotable sources were advised of proper disinfection practices to use before consumption.

Chemical analysis indicated that 32% of the contacted residents had iron levels in their drinking water above the Ministry of the Environment's drinking water objective of .3 mg/l. These people were notified that high iron concentrations could possibly cause odour and/or discolouration of their drinking water.

In one case, a nitrate level of 11 mg/l was found, (MOE criteria is 10 mg/l). Further sampling and investigation should be undertaken as well as notification of the affected resident concerning the nitrate problem and possible consequences.

Appendix II and III summarizes the chemical and bacteriological results for drinking water analysis. The Algoma Health Unit was informed of the instances of excessive bacteriological, nitrate and iron levels in drinking water supplies.

Samples were taken randomly for heavy metal analysis, of note was one sample of excessive copper concentration and several high levels of calcium and iron. Heavy metal results can be found in Appendix IV.

RECOMMENDATIONS

1. That an attempt be made to gather details of systems which were not determined in this study.

2. That derelict motro vehicles be removed in a general clean-up of the area.

3. That the Algoma Health Unit be contacted to ensure that upgrading of substandard systems previously reported is completed.

G L O S S A R Y

1. ALKALINITY:

   A measure of water's capacity to neutralize acids, due primarily to salts of the weak acids. (Bicarbonates represent the major form).

2. CHLOROPHYLL a:

   A photosynthetic green pigment in algae and its concentrations can be used to give a rough indication of biological activity in a lake.

3. COLIFORM BACTURE:

   Bacteria which are considered as a reliable indicator of pathenogenic or disease oriented organism.

4. FAECAL COLIFORMS:

   A species of bacteria associated with human and animal faecal matter which indicates a relatively recent pollution input.

5. FAECAL STREPTOCOCCI:

   Bacteria, largely associated with animal faecal matter and to a lesser extent man. As a result, they may be used to gain information regarding contaminant sources.

6. GREY WATER:

   Disposal water from sink, laundry, and bath facilities.

7. HARDNESS:

   A measure of the "soap consuming power" of water due to the presence of metallic cations. The principle components of hardness are calcium and magnesium.

8. Mg/l:

   Milligrams per litre.

9. SECCI DISC:

   A disc measuring 20 cm. in diameter and divided into black and white quadrants. The disc measures the transmission of light vertically through surface waters.

SURVEY DATA SUMMARY

APPENDIX I

Sample Code	Name	Sewage System	Kitchen-Bath	Drinking Water Supply
2	Mrs. L. Brisbois	septic tank	unknown	dug well
3	R. Monette	septic tank	unknown	spring
4	J. Bouchard	pit privy	leaching pit	point well
5	E. Schaffernicht	septic tank	unknown	creek
6	H. Gerlach	septic tank	unknown	Algoma Mills and well
7	R. Endre	septic tank	septic tank	spring
8	L. Audet	septic tank	unknown	house across road(#9)
9	Tremelling	septic tank	septic tank	point well
10	M. Bissaillion	septic tank	unknown	dug well
11	G. Cousineau	holding tank	unknown	point well
12	J. Bechard	septic tank	separate compartment	dug well
14	B. Girard	septic tank	unknown	point well
15	M. Soum	septic tank	septic tank	dug well
17	Arbour	unknown	unknown	point well
21	K. Green	septic tank	septic tank	dug well
23	A. Johnson	septic tank	unknown	dug well
24	D. MacDonald	septic tank	septic tank	dug well
25		unknown	unknown	drilled well
26	G. Johnson	septic tank	separate holding tank	dug well
26-88	Hurtibese	septic tank	septic tank	dug well
27	Blondin	septic tank	septic tank	drilled well
29	L. Yolande	pit privy	unknown	dug well
30	F. Sabourin	septic tank	unknown	drilled well
39	L. Roy	septic tank	septic tank	spring
40	Pelletier	septic tank	septic tank	spring
41	Schweiger	septic tank	unknown	spring
41-42	Netze	septic tank	septic tank	dug well
41-33	Genest	septic tank	septic tank	dug well
41-55	Bouchard	septic tank	unknown	spring
41-66	Coupal	septic tank	separate	dug well
41-77	W. Parsons	septic tank	unknown	spring
41-88	A. Stewart	septic tank	septic tank	dug well
43	Post Office	septic tank	unknown	spring

Sample Code	Name	Sewage System	Kitchen-Bath	Drinking Water Supply
45	McMillan	septic tank	unknown	spring
46	R. Shea	septic tank	unknown	spring
47	Marcel Motel	septic tank	septic tank	spring
49	Scott	septic tank	grease trap	well
52	Rene Asselin	septic tank	septic tank	drilled well
53	W. LaBrie	septic tank	unknown	drilled well
55	J. C. LaBrie	septic tank	unknown	well
55-11	Elliot	septic tank	unknown	dug well
56	E.Robins	septic tank	unknown	spring
57	Keating	septic tank	grease trap, tank	dug well
59	KOA (McQuarrie)	septic tank	unknown	dug well

APPENDIX II

Spragge - Northshore Improvement District

Water Results Summary

June 1977

Bacteriological Quality

Sample # Identification	Coliform/100 ml Total	Faecal	Faecal Streptococci per 100ml
2- I. Brisbois	0	0	4
3- R. Monette	0	0	6
388 - stream	80+	16	50
4- I Bouchard	0	0	< 2
5- E. Schaffernicht	16	16	6
6- H. Gerlach	0	0	< 2
7- R. Endre	4	2	2
8- L Audet	6	6	2
9- Tremelling	0	0	6
10- Bissaillion	0	0	< 2
11- Cousineau	0	0	2
12- Bechard	0	0	2
14- B. Girard	0	0	< 2
15- M. Soum	0	0	2
17- Arbour	0	0	4
21- R. Green	0	0	6
24 D. MacDonald	0	0	6
26- G. Johnson	0	0	2
26-88-Hurtibese	0	0	4
27- Blondin	0	0	2
29- L. Yolande	0	0	6
30- F. Sabourin	0	0	2
37-88 - Beach Lake sample	0	0	10
39- L. Roy	0	0	22
40-Pelletier	0	0	< 2
41 (a - Schweiger (pump)	0	0	2
41 (b - " (tap)	0	0	< 2
41-22-E. Netze	0	0	< 2
41-33 - Genest	0	0	2
41-55-Bouchard	0	0	< 2
41-66 - Coupal	0	0	2
41-77-W. Parsons	0	0	< 2
41-88-A. Stewart	0	0	< 2
43- Post Office	o	o	2
45- McMillan	0	0	< 2
46- R. Shea	0	0	< 2
47- Marcel Motel	0	0	< 2
49- Scott	8	2	< 2
52- Asselin	0	0	< 2
53- W. LaBrie	0	0	< 2
55- J. LaBrie	6	0	2
55-11 Elliot	0	0	< 2
57 - Keating	0	0	< 2
59- KOA (McQuarrie)	0	0	< 2

	Total	Faecal	Faecal Streptococci per 100 ml
L.1- G. Shea	0	0	0
L.2- Lena Shea	0	0	0
U.1- John Shea	0	0	0
U.2- M. Shea	0	0	0

APPENDIX III

Spragge - Chemical Analysis Results

#	Name	Hardness as $CaCO_3$	Alkalinity as $CaCO_3$	Iron as Fe	Chloride as Cl	pH at Lab.	Nitrogen as N Total	Nitrite	Nitrate	Total Phos.	Conductivity
2	L. Brisbois	24	11	0.20	6	5.6			.5	.01	71
3	R. Monette	19	9	2.3	4	5.7			<.1	< .01	58
388	Stream	18	11	0.10	4	6.5			.2	< .01	46
4	I. Bouchard	42	32	1.2	6	6.6			.2	.01	100
5	E. Schaffernicht	21	17	0.50	2	7.2			.1	< .01	52
6	H. Gerlach	62	51	1.2	3	6.8			<.1	< .01	121
7	R. Endre	22	14	0.10	3	7.1			<.1	< .01	52
8	L. Audet	22	15	0.05	3	7.2			<.1	< .01	52
9	Tremelling	29	21	0.10	3	6.5			<.1	< .01	65
10	M. Bissaillion	38	30	0.20	3	6.5			<.1	< .01	85
11	G. Cousineau	36	25	<0.05	7	6.4			.4	< .01	92
12	J. Bechard	111	89	0.05	16	6.9			1.2	< .01	246
14	B. Girard	31	17	0.15	5	6.0	.1	<.01	1.6	< .01	84
15	M. Soum	125	69	< 0.05	34	6.3			11.0	< .01	347
17	Arbour	51	41	0.10	4	6.7			<.1	< .01	103
21	K. Green	25	18	< 0.05	3	6.1	<.1	<.01	<.1	< .01	59
23	A. Johnson	56	18	0.10	195	6.0	.1	<.01	.4	< .01	690
24	D. MacDonald	127	22	3.3	305	5.9	.1	<.01	<.1	< .01	1070
26	G. Johnson	59	50	< 0.05	4	7.0	.2	<.01	.1	< .01	127
26-88	Hurtibese	49	31	0.10	10	6.0	.2	<.01	1.6	< .01	120
27	Blondin	380	185	0.40	14	7.1	.2	<.01	<.1	< .01	705
29	L. Yolande	87	67	15	43	6.6	1.1	<.01	<.1	< .01	284
30	F. Sabourin	388	186	0.65	6	7.1	.2	<.01	<.1	< .01	725
37-88	Lake sample	67	34	0.10	9	7.7	.6	<.01	.9	.01	154
39	L. Roy	27	23	0.05	2	6.4	.1	<.01	<.1	< .01	71
40	Pelletier	18	12	0.10	2	6.0	.1	<.01	<.1	< .01	45
41 (a	Schweiger (pump	102	86	0.25	282	8.2	.2	<.01	<.1	.10	1070
41 (b	" (tap)	27	19	<0.05	2	6.2	.2	<.01	<.1	< .01	64
41-22	Netze	62	23	1.3	18	5.7	.4	<.01	.2	<.01	168
41-33	Genest	31	16	0.90	12	5.7	.3	<.01	.2	<.01	102

APPENDIX III

Spragge - Chemical Analysis Results

#	Name	Hardness as $CaCO_3$	Alkalinity as $CaCO_3$	Iron as Fe	Chloride as Cl	pH at Lab.	Nitrogen as N Total	Nitrite	Nitrate	Total Phos.	Conductivity
41-55	Bouchard	22	16	<0.05	3	6.3	.2	<.01	<.1	<.01	53
41-66	Coupal	24	16	0.10	2	6.4	.2	<.01	<.1	<.01	58
41-77	W. Parsons	30	15	0.30	5	6.4	.2	<.01	1.4	<.01	73
41-88	A/ Stewart	46	15	0.10	8	6.0	.2	<.01	3.4	<.01	112
43	Post Office	40	30	0.20	6	6.4	.3	<.01	.3	<.01	95
45	McMillan	33	18	0.70	3	6.3	.2	<.01	<.1	<.01	74
46	R. Shea	28	19	0.05	2	6.4	.1	<.01	.1	<.01	67
47	Marcel Motel	30	19	<0.05	3	6.4	.2	<.01	.3	<.01	67
49	Scott	37	31	0.55	9	6.4	.2	<.01	<.1	<.01	100
52	Rene Asselin	161	136	1.9	64	7.5	.2	<.01	<.1	<.01	463
53	W. LaBrie	2494	19	0.05	4812	8.1	.1	<.01	<.1	<.01	13,300
55	J.C. LaBrie	315	217	1.4	123	7.2	.2	<.01	<.1	<.01	790
55-11	Elliot	22	16	<0.05	2	6.3	.1	<.01	<.1	<.01	53
56	E. Robins	117	102	0.10	7	7.0	.1	<.01	<.1	<.01	222
57	Keating	122	110	0.05	15	7.1	.2	<.01	<.1	<.01	252
59	KOA (McQuarrie)	65	5	9.4	7	6.1	.9	<.01	2.0	.09	168
L-1	Shea	20	14	0.20	2	6.2			<.1		52
L-2	Lena Shea	20	13	0.10	2	6.2			<.1		52
U-1	John Shea	20	16	0.05	2	6.1			.7		48
U-2	M. Shea	21	13	<0.05	2	6.2			.2		57
Average		116.46	41.64	.88	121.78	6.53	.24	.01	.59		463.68

Spragge - Heavy Metals Analysis Results

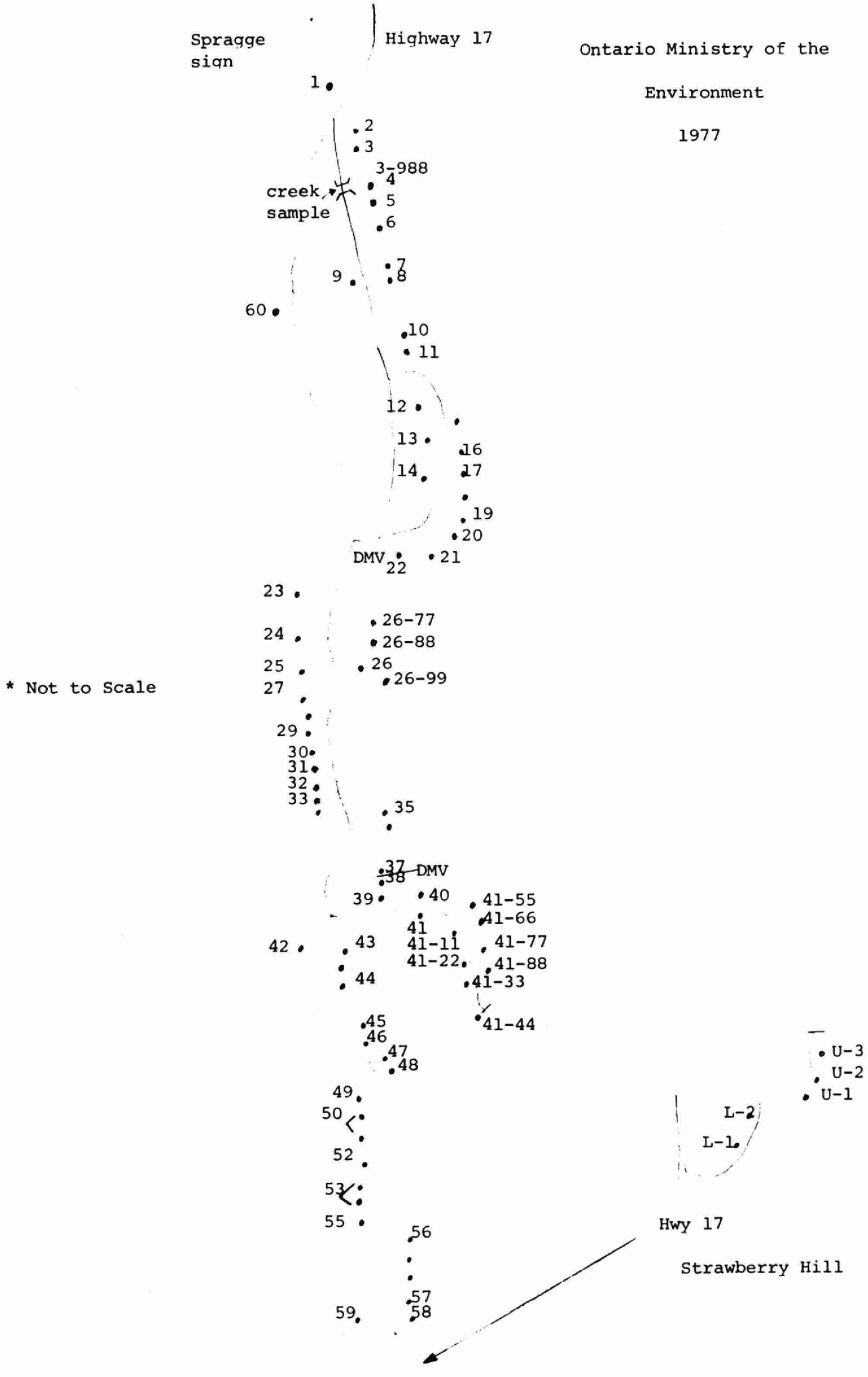
No.	Name	Copper	Nickel	Lead	Zinc	Cadmium	Cr	Fe	Ca	Mg	Ag
2	Mrs. J. Brisbois	0.06	< 0.01	<0.01	0.20	<0.005	<0.02	0.32	5.8	1.6	<0.01
3-88	Stream at 3,4	0.01	< 0.01	<0.01	< 0.01	< 0.005	<0.02	0.28	4.4	1.1	< 0.01
8	L. Audet	0.02	< 0.01	<0.01	< 0.01	< 0.005	<0.02	0.14	6.1	1.1	< 0.01
11	G. Cousineau	0.04	< 0.01	<0.01	< 0.01	< 0.005	<0.02	0.20	9.2	1.8	< 0.01
12	Mr. J. M. Bechard	0.03	< 0.01	<0.01	0.06	< 0.005	<0.02	0.12	22	9.5	< 0.01
26	Johnson	2.9	< 0.01	<0.01	0.03	< 0.005	<0.02	0.14	14	4.2	< 0.01
27	J. P. Blondin	0.04	0.02	<0.01	0.50	< 0.005	<0.02	0.40	120	11	< 0.01
37-38	Beach Lake Sample	0.14	< 0.01	<0.01	0.01	< 0.005	<0.02	0.62	17	3.4	< 0.01
41-55	Bouc[illegible]ard	0.24	< 0.01	<0.01	0.04	< 0.005	< 0.02	0.20	7.8	2.1	< 0.01
41-66	Coupal	0.04	0.01	<0.01	0.10	< 0.005	< 0.02	0.20	7.0	1.9	< 0.01
41-77	W. Parsons	<0.01	<0.01	<0.01	0.01	< 0.005	< 0.02	0.36	8.0	1.5	< 0.01
45	L. McMillan	0.01	<0.01	<0.01	0.12	< 0.005	0.05	0.92	8.5	1.8	< 0.01
52	Asselin	0.04	0.02	<0.01	0.50	< 0.005	0.02	0.40	120	11	< 0.01
53	W. LaBrie	0.06	<0.01	<0.01	0.67	< 0.005	<0.02	0.18	760	84	< 0.01
59	KOA (McQuarrie)	0.28	0.02	0.05	0.14	< 0.005	<0.02	4.6	18	2.0	< 0.01

Photo #1
DMV site located at
house #22.

Photo #2
DMV site located at
house #22

Photo #3
DMV site located between
houses #37 and #38

VILLAGE OF SPRAGGE



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